NEW ENGLAND FARMER.

Published by JOHN B. RUSSELL, at the corner of Congress and Lindall Streets, Boston.—THOMAS G. FESSENDEN, Editor.

VOL. IV. FRIDAY, DECEMBER 9, 1825. No. 20.

ON SHOEING HORSES.

The following articles, with the engravings, are extracted and abridged from a useful work entitled "A New System of Shoeing Horses; abridged from the work of Joseph Goodwin, Veterinary Surgeon to his majesty George IV., and member of the Royal College of Surgeons; containing a comparison between the English and French methods, and observations on the diseases of the Feet, connected with shoeing, and observations on bleeding—a view of the anatomy of the Foot," &c. Published by Wells & Lilly, Boston.

The foot of the Horse developes a curious, complicated and beautiful structure. It comprises all that portion from the coffin-joint downwards; and for the sake of perspicuity is generally divided into the internal and external foot.

INTERNAL FOOT.

The internal foot of the horse is composed of various sensible parts, appropriated to different purposes. It comprises in the first place the navicular and coffin bones. The navicular-bone constitutes the posterior part of the coffin-joint and is connected to the pastern and coffin-bones by ligaments. The coffin-bone is the lowest and last bone of either extremity. These two bones are the base and support of the column of bones above, and act as pullies to those tendons, which are inserted into the foot. Their union serves to prevent concussion when the limb is in motion.

The internal foot comprises in the next place, a portion of those tendons that enter the foot for insertion; a considerable quantity of fatty substance, situated behind the back tendons, and serving as a soft and elastic cushion for those tendons to act, or rest upon; also two thin cartilages growing out laterally from the coffin-bones, which help to prevent concussion and keep the heels of the foot expanded; the sensible frog and sole; and lastly a sensible laminated substance, covering all the anterior and lateral parts of the internal foot, which being received into corresponding laminæ on the internal surface of the crust, support the whole weight of the animal. This has been proved by removing the horny sole, frog, and bars, (constituting the bottom of the foot) when the crust was found sufficient to sustain the horse's weight. These laminæ possess great elasticity, and afford to the foot a most curious and complicated spring. The internal foot secretes the external hoof; in other words, the external horny hoof grows from the internal sensible foot: consequently the internal foot must necessarily be supplied with numerous blood vessels and nerves, which render it highly sensible and easily inflamed. Any contraction of, or undue pressure upon, the horny hoof is propagated to the internal sensible foot, and interrupts its functions; consequently, pain, disease, and lameness follow.

EXTERNAL FOOT.

The external foot, or horny hoof is intended to enclose and protect from injury the internal vascular and sensible foot. It is composed of a hard, elastic but insensible substance, very durable, and admirably calculated for the purpose for which it was intended. It consists of the wall or crust, the sole, the frog, and the bars. The upper part of the crust, where it is connected with the skin, is called the coronet. The lower part in front, the toe; the sides of the crust are named the quarters; the quarters terminate in the heels; and the heels are connected with the frog. The crust descends from the coronet to the base (in a well formed foot) in a regular slope, at an angle of about forty-five degrees, giving to the hoof somewhat of a conical figure. The inside of the crust is almost entirely covered with a beautiful set of laminæ, which very much resemble the under side of a mushroom. These are received into and united with similar laminæ, situated on the outer surface of the internal sensible foot, and constitute a most powerful spring to the horse in motion. The number of laminæ situated on the inside of the crust, has been computed at about five hundred, in a middling sized horse. The outer surface of the internal foot contains an equal number to receive them. Each lamina, or fold, has two sides and an edge; making three surfaces of union to each lamina. Consequently one foot of a middling sized horse has three thousand points of union, giving to it a surface of four square feet. Now as a horse has four feet, and as each foot has a surface or bearing of about four square feet, it follows that a horse treads on sixteen square feet, instead of as many inches, as might naturally be supposed. It has been stated above that the attachment or union between the folds or laminæ on the outer surface of the internal foot, are equal to the support of the weight of the animal, when the horny hoof, sole, frog, and bars are removed. This proves pretty clearly that the crust was intended to support the weight of the horse, and not the frog as some have believed. Professor Coleman founded his system of Shoeing upon the idea that the frog ought constantly to press upon the ground and support in a great measure the weight of the animal. I am informed from a source that may be credited that Mr. Coleman's system is not now practised at the Veterinary College, where he is Professor and principal Director, nor in the Cavalry, where he is the first Veterinary Surgeon. It should seem therefore that experience has not proved its practical utility.

OF THE FRENCH SYSTEM.

[3—*French Horse nail.*]

The French Shoe is perhaps rather wider than the common English shoe; it is convex on the ground side, and concave on the foot side, and equally thick throughout. It has eight nail holes at equal distances round the anterior part of the shoe; but the last hole on the inside quarter is generally at a greater distance from the end of the shoe than the one on the outer quarter; the holes are punched with a square countersunk head deep into the shoe, and at some distance from the outer rim, and they are made obliquely, to give the point of the nail a direction outward.

On the foot side of the shoe there is a much greater space between the nail-holes and the outer edge than in the English shoe; and instead of the shoe being straight from the toe to the heel, it is considerably curved at the toe, which is called by the French veterinarians the "*adjusting balance.*"

The advantage of the French method of nailing on the shoe, is very superior to the English, and the form of the shoe is so admirable, that I cannot conceive, situated as we are so near to that country, how so superior a system has not long before been attempted among us, for we certainly have not seen any plan of shoeing, which possesses such a decided superiority.

If we refer to the action of the fore-leg, it will tend to explain some of the advantages of the curved shoe.

When a horse is about to move, the first indication of motion in the fore leg is a bend at the knee, which necessarily raises the heels, and they become more and more elevated till the toe (which is the last part that leaves the ground) is lifted for the moment that the foot is suspended. The base of the foot, just at its leaving the ground, is almost perpendicular, when the knee is bent to its fullest extent; the foot is then in the same position with the heels of the shoe pointing upwards. If we consider this first part of the motion of the limb, we find the movement of the foot very nearly describes a semicircle; and on viewing the form of the joints connected with the action, the necessity of a curve at the toe is clearly demonstrated: again, the form of a shoe worn out at once shows that it must be more suitable to put on a new one of that form, rather than suffer the action of the leg to be opposed until it is worn to that shape. In the second part of the action, when the foot comes again to the ground, the quarters and heels touch first, and they are the only parts occupied in placing it on the ground again.

Notwithstanding that I am fully convinced of the decided superiority of the French method of nailing on the shoes, and of the peculiar advantages of the curve at the toe, still I have two objections to the French system in general, viz. the convex form of the shoe on the ground side, and the concave form on the foot side. I object to the convex form because the horse is by no means so safe or secure on his feet, more particularly when going over stones. To the second, I refer for my objections to the chapter on the common English shoe, where the effects of the concave form of the foot side of the shoe are fully described.

The passage referred to is as follows. "If we consider that the hoofs of horses are elastic and yielding, and that iron is a solid unyielding body, we may readily conceive when an elastic body is bound on, or nailed to an inelastic one, if there be much action or motion, or much weight to support, that the yielding body will

give way, and consequently that the horn of the foot must be continually undergoing a change in its form, which I contend is occasioned by the shape of the English shoe now in common use. Having stated that the foot surface of the shoe is invariably a plane inclining from the outer to the inner edge, and that the ground surface is convex, and also that a piece of solid iron of the form described is nailed on to the hoof, it necessarily follows, as the horse treads on the shoe which is convex on the ground surface, that the whole weight must be supported on an edge, and by the nails and clenches. Thus the weight of the animal is continually squeezing the sides of the hoofs together, and all the horn, at the quarters and heels behind the last nails, has no power to prevent the weight above from pressing them down the inclined plane.

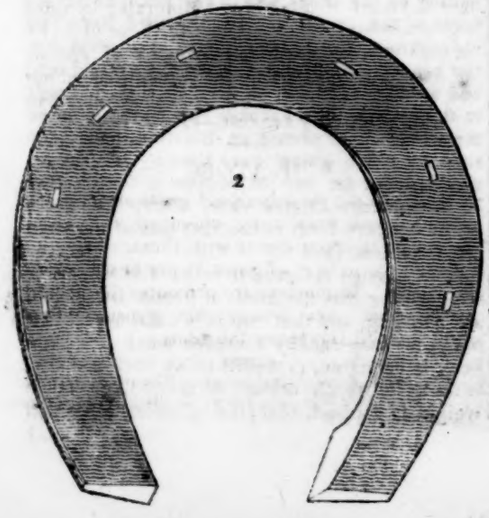
"To exemplify this idea, suppose a horse's foot to be put into the mouth of an iron box the size of the foot, and of a conical shape, and that it is pressed by a heavy weight; the iron box being of an unyielding substance, and the hoof elastic, it must by degrees assume the form of a cone. Now this is precisely the principle of the English shoeing, and it is evident that the base or bottom of the foot is gradually made less and less, and becomes variously distorted in form.

MR GOODWIN'S SYSTEM.

Fig. 1—*Mr Goodwin's Shoe—the ground side.*

Fig1.

Fig. 2—*Mr Goodwin's Shoe—the foot side.*



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Mr. Goodwin continues, in his tenth chapter; "In describing the French method, I observed that there were in my opinion, two great objections to the shoe used in that country, viz. the convex ground surface, and the concave foot surface. In the shoe I have adopted, I have reversed the form on each side, making it concave on the ground surface, and convex on the foot surface, with an inclination from the inner to the outer rim. To effect this form on each side, it is necessary that the shoe should be sloped or bevelled on the ground side, from the outward to the inward part all round the shoe, except about an inch and a half at the heels. To accomplish this inclination on the foot side, it is necessary to thicken the inner part at the heels, as far as the flat surface extends.

It may be supposed that a plane inclining the reverse of the common English shoes, will produce diseases in the feet of a horse which have not appeared before. This is probable if the inclination be carried to an extreme; but some years have elapsed without an instance of the kind in my practice. I consider, therefore, that it is not likely to occur. There is only one class of hoofs that such a shoe could be applied to, viz. those with extremely concave soles, which are invariably strong, and have abundance of horn, and require a greater opposition than any other to counteract contraction by the inclination of the plane. With all other kinds of feet, if the shoe is clear of the sole, it is not practicable to make the inclination to such a degree as to prove injurious.

In treating of nailing.: "Nailing is an important part of the art of shoeing and deserves mature consideration, as upon it very much depends whether a horse goes sound immediately from the hands of the smith. From a defect in its principle, nailing contributes to the production of those permanent diseases so frequently spoken of. If lameness is caused by a direct stab, it will be seen instantly, as it arises from taking too much hold, pitching the nail inward, and at the same time driving too high in the crust; or from the point of the nail splitting, and taking a contrary direction to what was intended.

"In other cases where the injury has not been severe, and where the nails are driven too near, and press on the sensible parts, lameness will not show itself so soon; and the time of its appearance after shoeing, will be in proportion to the degree of pressure. In all cases of lameness, where there is no particular external indication, it is prudent to take the shoe off, when it proceeds from the effects of a nail it will soon be discovered; the usual remedies to counteract inflammation will succeed in these cases. Collections of matter on some occasions are found, and produce troublesome ulcers, difficult to heal; they are, however, of only a temporary nature.

"When the diameter of the crust is considered, even in perfect hoofs, and compared with the diameter of the shank of the ordinary nail, it cannot excite surprise to see the hoofs of horses split and mutilated in the manner they are; but when it is considered that one-half of the feet of horses are defective in the natural production of horn, and have consequently a thin crust, this mode of nailing must add considerably to the number; and as it has been shown by the nature and direction of the hole, that nails must be pitched inward, and as the hole is so near the outer edge of the shoe, the nail must necessarily be driven a considerable height in the crust, to get hold enough to afford the shoe the necessary support; and the nail having been driven inwards, it must, in the course of its direction through the hoof, before the point comes through, have taken a curved direction, when the curved part being the nearest to the sensible contents, it must more or less have a tendency to press in proportion to the degree of curve and approximation, on the sensible parts.

Much depends on the proper size of the nail. I have on many occasions seen smiths for want of a proper assortment, drive large clumsy nails into small delicate feet, and on the other hand small feeble nails not large enough to fill the clumsy holes of a heavy shoe for a large foot. The nail holes are generally too near each other; so that the frequency of driving nails so near together, renders that part of the crust a mere shell, full of holes: and the difficulty is great which smiths frequently meet in finding even a sound piece of horn to drive the clinch through. It is not unfrequent to observe a smith drive a nail half or three-fourths of the way, then pull it out again, get a fresh nail, give the point a new direction in search of a bit of sound horn to drive some part of the nail in, and repeat this driving and pulling out again eight, ten, or even twelve times, before he considers the nail safe; and it is by no means an uncommon occurrence when shoes are taken off, to find where the nails have perforated the crust in the way described, the whole piece come off with the shoe as high up as the clinches. The consequence of such a breach in the wall may be readily imagined; the smith is obliged to look to the remaining part of the crust, where it has not been usual to drive nails, to keep the shoe on by any means; he is therefore driven to the toe and heels, or indeed any part of the wall, where he thinks he can get a nail in, and when the manner in which the weight of the horse is bearing (only on an extreme edge of the shoe) is considered, there must be an unnecessary strain on the nails and clinches, and consequences, like those mentioned, are unavoidable. As I have already stated that a breach in the wall on one side the hoof is frequent, and as it sometimes happens that both sides of the foot are torn off in this way, the toe and back part of the heels are then the only remaining parts where a nail can be driven, and the weight of the animal is thrown on these two points; it may thence be readily imagined that he will not work long in this state; a run at grass for several months will be necessary to restore this loss and waste of horn. It is however probable, that so much mischief has been done to the foot, that a run of grass will not remove the consequences, and that some permanent disease has taken place.

In the ordinary manner of nailing, we either see the nail-heads standing far out of the shoe, or the head is so small, or has been rasped by the smith to bring it more on a level with the shoe, that a few days will wear it off. Grooms and coachmen have a practice of taking their horses to the forge between the periods of shoeing, or to require a smith to attend every Sunday morning to knock down and lighten all the clinches, and to renew nails. The starting of

the clinches arises from the shoe getting closer to the foot after it has been on a short time;—and as the bearing is only on the outer edge, it imbeds itself in some degree within the crust; thus the distance between the nail hole on the foot side of the shoe and the clinch must be shortened, so as the shoe gets closer to the foot, the clinches are pushed further through the hoof, which produces the starting of the clinches, which invariably attends the English manner of shoeing.

Having described the imperfections of all the plans of nailing that have come within my observation in this country, I shall now explain a practice which appears to me to obviate those inconveniences. The French method has some properties admirably calculated to answer a better purpose, for instead of driving the nails into the crust, a greater hold is taken, as the manner of punching the hole indicates; the nail is driven within the crust; consequently going through a portion of the sole, it takes a short oblique outward direction through the crust, which is the reverse of the English plan, as has been shown: their nails have an inward direction. By taking so much hold, and giving an oblique outward direction, the smith is enabled to bring the clinches much lower in the hoof, and nearer the shoe: this direction of the nail affords a much stronger hold of the foot, and is less liable to split the crust.

An English smith, on a first view of the distance that the French punch their nail-holes from the outer edge into the shoe, decides, that they cannot be nailed on the foot with safety; a little practice, however, proves that it is not only a safer, but a far more secure method.—What is here said has a reference only to taking more hold, and directing the nail obliquely outward.

The facility with which smiths nail on these shoes when fitted, is not one of the least advantages of this system. All the smiths that I have met with, state that after a little practice they can nail on three of these shoes with more ease, and in less time, than two of any other form, and it is a rare occurrence to see a nail wasted. Indeed the preservation of the crust by the short and oblique hold, and the security with which shoes are kept on, at once indicate all these advantages, and also that at every period of shoeing, the hoofs have grown sufficiently to afford sound horn to drive the nails through, as well as the great security that the large and deep counter-sink head forms with the shoe.

PART OF THE FORE LEG AND FOOT SHOD ON MR GOODWIN'S SYSTEM.

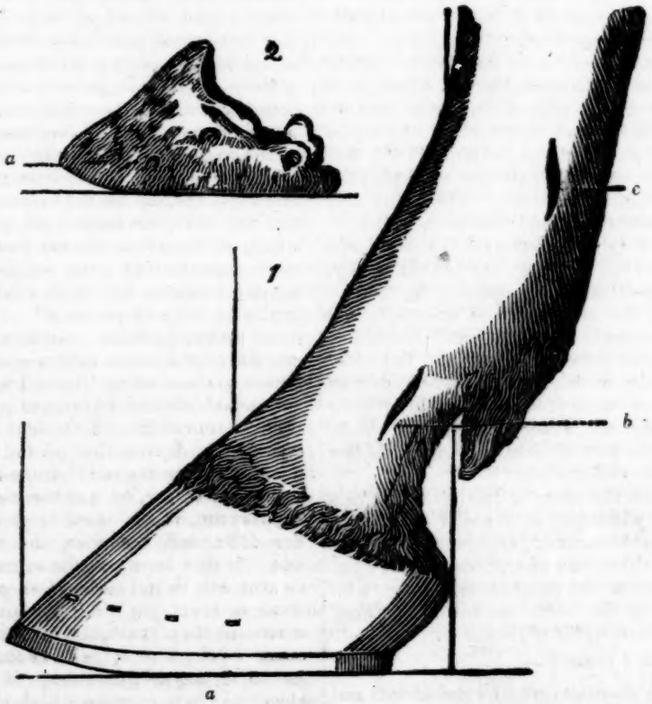

FIG. 1—Represents part of a fore-leg, with a side view of the foot, shod on Mr Goodwin's system—*a* shows the shoe on a straight line from the heel to the point of curve, and also the degree of curve at the toe.—*b &c.* the parts where the nerve operation is usually performed.

FIG. 2—A side view of the coffin-bone.—*a* shows the degree of curve at the toe, in the natural bone, and harmonising with the French method of shoeing.

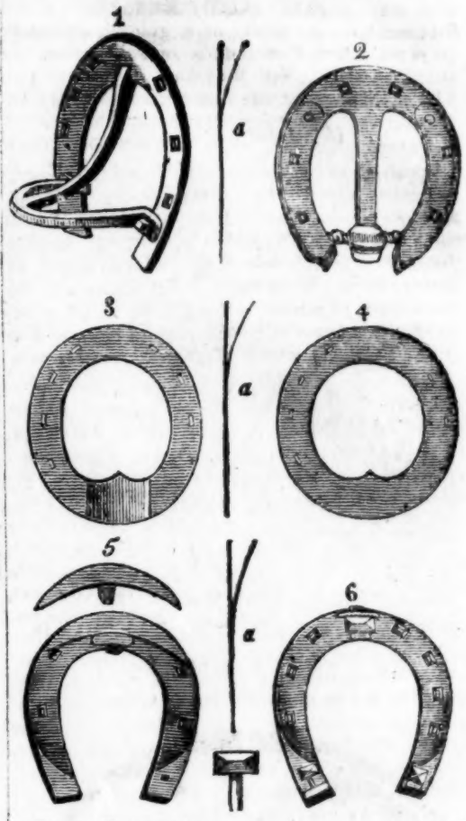

Fig. 1—Patten shoe
Fig. 2—Screw shoe
Fig. 3—Bar shoe, the foot side, with the bar raised.
Fig. 4—Plain bar shoe, the foot side.
Fig. 5—Road shoe, with moveable toe pieces.
Fig. 6—Frost shoe, with moveable ruffs.
a, a, a, Degree of curve at the toe.

MARYLAND INSTITUTE.

A society, which promises to be of great utility, has recently been formed in Baltimore, under the title of the "*Maryland Institute for the Promotion of the Mechanic Arts.*' The following is the specification of its objects, as set forth in the 1st article of the constitution; viz: "to encourage and promote Manufactures and the Mechanic and useful Arts, by the establishment of Popular Lectures upon the Sciences connected with them; by the formation of a Library and Cabinets of Models and Minerals; by offering premiums for excellence in those branches of national industry deemed worthy of encouragement; by examining new inventions submitted for that purpose; and by such other means as experience may suggest.—*Troy Sentinel.*

POTATOES.

M. Mollerat, who has paid great attention to potatoes, and made many chemical as well as agricultural experiments with them, states that gypsum, or plaster of paris, is the best manure for them. Animal manure promotes the growth of the stalks and leaves; but gypsum mixed with the soil improves the roots.

Berkshire Medical Institution.—The number of students now attending lectures at the Berkshire Medical Institution, is 112.

AN ADDRESS,

Delivered before the Hillsborough Agricultural Society, at their Cattle Show and Fair, at New Boston, Sept. 22, 1825;

By DANIEL ADAMS, President of the Society.

(*Concluded from page 150.*)

Inquiry, as yet, is but little excited on agricultural subjects. By far the greater proportion of our practical farmers are satisfied with their own limited experience, without availing themselves of the advantage which might be derived from a knowledge of the views and the experience of others, although the means of acquiring this knowledge are now so increased as to be effectually within the reach of every man.

Who among us, let me ask, reads the NEW-ENGLAND FARMER, a weekly agricultural paper, published in Boston, devoted almost exclusively to the interests of agriculture? This paper, now just entering on the fourth year of its publication, has received the unqualified approbation of such characters as Lowell, Quincy, Pickering, Lincoln, and others no less distinguished. But these, perhaps some will say, are *gentlemen* farmers; men distinguished for their erudition and their political wisdom; but as to *agriculture*, what can they know of that? They neither hold the plough themselves, nor drive. True—but although they do not *hold* the plough, they *direct* it, and as to a *driver*, their teams are trained to go without one. Dr. Johnson once observed, that "the man who knows which *way* to direct his views, sees much in a little time." Such are the characters I have mentioned.—Their views are directed by the light of science. They have not only studied agriculture in the closet, but they have contemplated it in the field, and have exemplified it too on extensive and highly cultivated estates, in all the various products of the farm. They are what we call *practical, scientific agriculturalists*, with whom many of *us* in the county of Hillsborough, with our three acres of corn, as many of English grain an acre of potatoes, and a yard of turnips, are no more to be compared, than a fire-bug with a sun-beam! But it is not from such characters as these only that the New England Farmer receives its support. It is highly estimated by the plain, sensible, practical farmer, and in some of the most agricultural and best cultivated districts in the United States, is almost as generally read as the newspaper. Notwithstanding, at the close of the last volume, which was in August last, the publisher numbered only *eight* subscribers in the county of Hillsborough!

Again let me ask, who has read the *American Orchardist*, a plain, practical treatise on the culture and management of the apple and other fruit trees, together with the most approved methods of manufacturing cider, compiled from the latest authorities, and adapted to the use of American farmers. This is a cheap and valuable publication. It contains no speculative or visionary projects, nor does it recommend any untried experiments. There is no branch of American husbandry which calls more loudly for reform than that to which this treatise relates. In the usual practice trees taken from the nursery are *yerked* out of the ground much like a surgeon extracting teeth, and with their mangled roots crowded into a small hole, excavated out of the hard earth, of about the depth and dimensions of a porridge-pot;—our orchards, in many instances, so infested with vermin, one would think they were visited with all the plagues of Egypt;—now and then, at least, a cider barrel standing with its putrid lees through a hot summer, sending forth pestilence and death;—and then the cider, such as I have sometimes seen it, vile, filthy, abominable stuff, that would make a HOG *squeal* to dip his nose in it!

I might go on to mention the Agricultural Repository, published semi-annually by the Massachusetts Agricultural Society, the New Hampshire Agricultural Repository, and other works of a similar nature, but I forbear. Now the fact that these and like publications are no more read among us, is incontrovertible evidence of the low and degraded state of our agriculture.

In new countries, as before observed, agriculture may be made a profitable concern without knowledge, without intelligence. But when the virgin fertility of the soil shall have become exhausted, and all its products feeble and sickly, it is then that agriculture, to be successfully practised, assumes the dignity of a science. As such it is not to be acquired like other mechanic arts by patient drudgery and plodding dullness. It consists not in the corporeal ability of turning the glebe and blindly committing the seed to the faithful bosom of the earth, thus entrusting all to the unenlightened efforts of nature, without the direction of scientific skill. "The ignorant and unlettered boor," observes an elegant writer, "is no more capable of being a successful farmer, than the team which he drives. He may fell the forest and burn the timber, and by his ill directed and unenlightened efforts, may obtain a stinted and ungenerous crop; but he wants the talents and address to court vegetative nature in her coyer moods, to draw forth her latent beauties, and to induce her to display the full luxuriance of her charms. These she only reveals to those ardent and scientific admirers, who penetrate her sequestered recesses, who study her in all the windings and mazes of vegetation, and who labour to acquire the knowledge of soils, the application of composts and manures, the structure of implements, the habits of plants, and all those philosophical improvements to which husbandry has been indebted during the last century, and which have been converting England, France, the Netherlands, Italy and a great part of Germany into little less than well cultivated gardens."

The short of the story is this;—*Agriculture combines deep philosophy with useful practice.*—Principles must be studied, experience must be acquired, and these two operations must be going on together in the mind of *every* man, who would aspire to the noble emulation of being considered an *accomplished farmer*.

In conclusion I remark—

Agricultural Societies are well calculated, and have proved eminently successful in advancing the agriculture of this and every country where they have gone into operation.

Should some one say, but little effect as yet has been produced by these societies in our own state; our reply is ready.—An abundant harvest is not to be expected from that field, whatever may be the natural fertility of its sod, from which have been withheld the labor and the expense of effectual cultivation. Would you see the wonder working effects of these societies, you must look abroad, to other states and countries, where they have been quickened into life by the sunshine of legislative patronage, and where the whole agricultural interest, almost as one man, has stepped forward for their support. There the uniform effect of the formation of these societies has been a sudden and very wonderful increase of agricultural knowledge, and a consequent and necessary excitement of emulation and enterprise. And indeed what is the business of this day, but so many lessons on agriculture? Would you know what has been done already by men of like occupation with yourselves in different parts of the country—would you know how it has been done, under what circumstances, at what expense, and with what success?—Then listen to the reports of the several committees, which are about to be read before you. These committees are eleven in number—five on different descriptions of stock; five on different descriptions of manufactures; and one on agricultural products and farms.—Seventy-four sensible, practical farmers and mechanics, some of them more or less scientific, are engaged in discharge of the duties of these several committees, aided on articles of domestic manufacture, by the intelligence of a number of ladies equally familiar with the operations of the dairy, the spinning wheel and the loom. Some of the best cultivated farms in the county of Hillsborough, various descriptions of stock, and numerous specimens of domestic manufacture most worthy of imitation together with all their respective and attendant circumstances, have passed under the inspection of these committees. And is it possible their reports on these several subjects shall contain nothing to interest the farmer?—Nothing to prove his emulation, to engage his attention, or to excite his enquiry?—nothing to strengthen his hands and encourage his heart?—no new information, practice, or improvement, not one solitary hint or suggestion, which having been adopted and found successful by some of his brethren, he may carry home, and with evident advantage adopt into his own practice? The committee on agricultural products and farms, particularly, have devoted *six days* to this service, have travelled by computation 146 miles, have viewed *thirty-seven* different farms, and *one hundred and forty* different crops. This method of awarding premiums on agricultural products, by an actual inspection of the crops and of the farms on which they are growing, by a committee sent out for that purpose, was adopted by this society in the year 1822, and has been uniformly practised since. It may be worth the while to attend for one moment to the *instructions given* this committee on receiving their commission. In that instrument they are told, that "it is not the intention of the Executive Committee to encourage the raising of great crops at too great expense; nor to encourage a high state of cultivation on a small part of the farm, while the other parts are neglected. You will therefore," say these instructions, "in making your awards on agricultural products, take into consideration the situation of the farm, the nature of the soil, the former and present mode of cultivation, the quantity and quality of manure used, and the ABILITY of the owner to make improvements and husband his farm well; and in deciding on two crops, if one be large and considered simply with

the other *best*, yet, if it be *expensive* and the other parts of the farm have been neglected, you will award the premium to *the inferior but less expensive crop*, if the general husbandry of the farm on which it grows, be good."

They are further instructed "that it is the object of the Executive Committee to encourage that kind of husbandry which is *most profitable*—to give to the industrious and prudent tenant of a small *farm* an equal chance to obtain a premium with the more wealthy owner of a *large* one—in other words to *encourage and reward real merit in husbandry*." Such are the instructions given this committee, and such are the principles by which they have been actuated in making their awards; and I need not tell you, with what intense interest the report of this committee has ever been heard, at each successive anniversary of the society. And can a man lay any claim to the honorable appellation of a *farmer*, and yet care for none of these things? Then for aught I can conceive, Gallio, the Roman deputy, might have been a Christian.

But more than all this, would you have an opportunity, by actual inspection, each one for himself, to *see* what has been achieved in domestic manufactures, by the enterprise and the ingenuity of some of our most industrious citizens; or would you know what attempts have been made and are now making in different parts of the country for the improvement of our domestic animals—would you be acquainted with some of the foreign breeds which have been imported into this country—would you have an opportunity of comparing these foreign with our domestic breeds of cattle, with a view to an estimate of their comparative values? Then repair to yonder hall and to yonder pens, and what privileges you there enjoy—privileges to be sure which would be much improved were the funds of this society more ample. And has the Legislature of New Hampshire not *one cent* to bestow for the promotion of these objects? How is it that her policy in this respect differs so widely from that of the government of some of her sister states. In Massachusetts, by an act passed 1819, every incorporated agricultural society, in that state, having a fund of $1000 at interest, accruing from the avails of membership, or by subscription of individuals, is entitled to receive from the treasury of the state *two hundred dollars*, annually; and so in proportion for a larger capital, until the grant shall amount to *six hundred dollars*, annually, to such society, having a capital stock of $3000, at interest for the use of the society. New York, for several years, has made an annual grant of $10,000 to be divided among her agricultural societies.—Even in Halifax, a province formerly thought so unpropitious to the operations of agriculture as to be incapable, under the most skilful cultivation, to produce bread for the supply of its inhabitants, even in that province the provincial assembly made a grant of $6,600 to its central Board of Agriculture, the first year of its institution. The amount of her grants the two succeeding years was $10,000, amounting in three years to $16,600. And what was the effect of this liberality? "Improvement has advanced with such gigantic strides," observes one of her own writers, "that already [a little more than three years] the point is out of sight from which we started." A spirit of reform actuates the whole agricultural mass, and provided the energy be sustained for a few years longer, will place the independence of the province, as it respects the supply of bread for its inhabitants, on fixed and immoveable ground.

Then extend your views more remotely abroad; look to Europe—look to Great Britain. Her Board of Agriculture was constituted by royal charter, in 1793. At its first institution a sum exceeding $13,000 annually was voted by parliament for its support, besides several valuable priviliges and powers conferred by the charter. The Dublin Society, instituted in 1749, received an annual grant of $24,000. The Highland Society of Scotland, at its institution in 1789, received a donation from government of 13,000; the year following its revenue was further augmented by a grant of $3,500 a year. These three great establishments expend at present nearly 70,000 annually, the greater part of which is the immediate grant of parliament. They extend their protection and encouragement to the different districts, shires, or parishes of the United Kingdom; direct the tide of enterprise; publish from time to time their prize essays and transactions: hold out premiums; correspond with the government on important objects; and are the main springs of that excellent system of husbandry which has increased the happiness and confirmed the stability of the country. Similar establishments in France, in Switzerland, in Denmark, in Sweden, in Italy, and in many of the States in Germany receive the aid and the fostering care of their respective governments. Indeed, Spain, poor, sunken, degraded Spain, and the Sublime Porte, are almost the only governments in Europe who do nothing for the encouragement of Agriculture. Returning home to New-Hampshire, what is the inference to be drawn from all these facts in relation to the policy of our own legislature? Surely, "*There is that withholdeth more than is meet, but it tendeth to poverty.*"

Economy in the administration of the public purse is unquestionably a virtue of the highest praise: but there is an economy which borders on the neighbouring vice, and defeats its own intentions. The husbandman who is parsimonious in the use of his manure, or in the quantity of his seed, may spare some little expense in the spring, but his narrow views will meet with their just retribution in harvest. A mistaken prnciple of saving is fully as pernicious in its consequences as a profuse expenditure. The former imposes restraints on production, the latter wastes and squanders what is produced. Both are destructive of property, the one in preventing its creation, the other in annihilating it. Should the withholding therefore of the proper means of encouragement to extend tillage throw a damp on agricultural effort, this cannot be dignified by the name of economy, and bears no resemblance to the virtue. It is the saving of a cent to prevent a dollar being drawn from the great store-house of vegetation.

But there are some of our farmers, after all that has been said and done, who affect a total unbelief in the *utility* of agricultural societies. All their feelings are in opposition to them.—They will not examine their claims, or if they examine them at all, it is with the same feelings that Hume, Voltaire, Condorcet, and other infidels examined the claims of Christianity to their belief—with feelings of settled hostility and aversion. Reasoning, with such minds, is of no a vail. There are two objections, however sometimes urged against these societies, which I propose briefly to notice.

The first is, that men in other professions are associated with the farmers in these Societies. To this objection I have already replied while speaking of the practical, scientific agriculturalist. To the remarks then made I have nothing further to add. Should more be necessary, I refer you to the New Hampshire Agricultural Repository, pages 42 and 43. In relation to that work, I only lament that so many important topics are there grouped together in an "Introduction," which few ever read, occupying more than half the book. Had these topics been separated, and exhibited to the reader as so many *distinct subjects*, with a copious table of contents, I doubt not but the book would have been much more read, and it could not but have proved useful.

The other objection urged against agricultural societies, which I propose to notice is that the *rich* obtain all the premiums. This is not true. Those obtain the premiums who exhibit the best cultivated farms, who manifest the most care in improving their stock, whose general system of management is that which makes the greatest return at the least charge. These things do not so much require money, as they do industry, enterprise and sound calculation.—With these qualifications, a man with a small farm stands an equal chance to obtain a premium as his more wealthy neighbor with a large one. But why should a dozen men pay their money for one man to pocket? In other words—why should men join Agricultural Societies, and pay a certain stipulated sum annually to raise a common fund to be expended in premiums? For the same reason, that men pay a tax to raise a fund to be expended in schooling their children.—Most of the important points connected with agriculture admit of being illustrated by experiments. It is not convenient for every parent to be the instructor of his own children. Neither is it convenient or even possible for every farmer to engage in those experiments, which are necessary to illustrate the various important points connected with agriculture. In both cases it is frequently more convenient to pay a small sum to engage others to do these things for us. Those who become competitors for premiums or who enter on any new or untried experiment in agriculture, encounter all the risk attendant on their failure, while those of us who stand by, merely *spectators of their operations*, enjoy all the benefit to be derived from their success. Every new, well authenticated fact in agriculture, when promulgated and known becomes a light to guide the husbandman. It is a light like that of the sun, which sheds its rays equally on the evil and on the good. These societies spread over most of our States, are the *foci*, whence this light, emanating from ten thousand luminous points, is converged; and from whence it is again reflected, in all possible directions, carrying comfort to every habitation, and gladness to every heart. These institutions ought therefore to be cherished as one of the best hopes of our country. Let the whole agricultural interest rise as one man in their support. When all contribute something, general improvement progresses. The tide then would deepen, and quicken, and widen, and overflow, until there should be neither waste or devastation, in all our happy land.

From the Belvidere Apollo.

MESSRS. EDITORS: This is the season of the year to clear meadows of the bogs that frequently grow on low lands, and I would recommend from my own experience, to cut up the bogs and build fence with them, by which means the land is doubly benefited: first, by clearing it of that which is injurious, and secondly, by making a fence which is equally substantial with that made of stone, independent of its compactness: After having tried different methods, I would recommend laying them after the manner of stone fence: on low or wet lands it will settle much slower than on upland: the wild grass will cease to grow, and a spear commence, which in two years will connect the bogs. I would advise laying the fence three feet at bottom and four feet in heighth, with one lateral rail supported by stakes at each end, usually termed "stakes and rider," which will keep it to its place, although it settles considerably the first year, and gradually afterwards. I am convinced from four years' experience, that it will endure ten years without any additional bogs, and it can be laid up at one-tenth expense of that which is made from stone. ECONOMY.

Independence, (N. J.) November 17, 1825.

HOGS.—A good sty is of the utmost importance in fatting hogs. Nor is it less important for keeping them in winter; as, the more comfortably they are kept, the less nourishment they require. The sty should be proportioned in size to the number of swine it is to contain. One of sixteen feet by twelve is probably sufficient for eight fatting swine. It should be divided into two apartments; that in the rear, which should be about six feet wide, should be close and warm for the hogs to lie in. Here they should have a constant supply of dry litter, when the weather is cool; for it is an essential point to keep them comfortable. The front part of the sty, which would then be about ten feet wide, should have the floor descending on one side for the filth to run off; and on this side should be an opening. The trough should be on the upper side, covered with one or more lids; and upright pieces should be set before it, at such distances apart as that one hog only could put his head between any two of them, in order that, while feeding, the weaker animals should be protected against the stronger. The whole should be covered with a roof; for it is essential that they be protected from storms, while they are in the outer or feeding apartment. According to the foregoing, if sixteen hogs are to be kept or fatted in the sty, it should be thirty-two feet long and twelve wide, and in that case there might be a sleeping apartment at each end. These apartments should again be subdivided, that, for the quiet of the animals, particularly in fatting, too many may not be forced to lie together. It would probably be best also to divide the feeding apartment; for too many hogs kept together are not apt to enjoy that peace and quiet which is necessary to their fatting well. Posts should also be set up in the sty for the hogs to rub themselves. If thirty-two hogs are to be kept or fatted, then, perhaps, the better way is, to have two stys, of the dimensions last described, placed together, with a roof over the whole, and a passage between them for the purpose of carrying food to the troughs. If a part of the roof extended considerably beyond the sty, it would afford a convenient cover for forming a heap of compost from the dung of the swine.

NEW ENGLAND FARMER.

FRIDAY, DECEMBER 9, 1825.

MASSACHUSETTS AGRICULTURAL COLLEGE.

The Franklin Post, a well conducted newspaper printed at Greenfield, Mass. in making some remarks on the proposed establishment of a seminary for the education of youth designed for agricultural and mechanical pursuits, says "There is probably but one opinion concerning the utility of such a seminary, in the present state of society, and the progress of agriculture. The only subject of discussion will be the proper location. It would seem at the first view that the country would furnish the most eligible situation for an institution whose principal design is connected with the business of the country. The vicinity of the university would undoubtedly afford many advantages, which would not be enjoyed in an interior location; and there are some objections, which may be thought to counterbalance this advantage. We have introduced this subject for the purpose of calling attention to the petition of the Trustees of Deerfield Academy, presented to the Legislature at the last session, to be incorporated as an agricultural seminary, embracing the objects proposed at the meeting at Boston. If it should be thought expedient to locate the institution at a distance from the Metropolis, we know of no place, which possesses superior natural advantages for developing all the benefits of such a seminary. It is situated in one of the richest agricultural regions of the world, where the powers of cultivation may be tested to the utmost, and where a good system of agriculture has for years been pursued. It is provided with a building, which will be sufficiently large and commodious for the wants of the proposed institution for several years. The academy possesses a good set of apparatus for philosophical and chemical experiments, and a cabinet of minerals, collected by Professor Hitchcock of Amherst College. The town and adjacent country present a fine field for geological, mineralogical and botanical researches, which will be important parts of the plan of education. There is a large school library in the village, accessible on reasonable conditions, to all persons. All these advantages would be enjoyed at the commencement without drawing upon the liberality of the public; and in addition to these the funds of the academy are to be reckoned. It is believed that few if any country towns are more eligible in every respect than this for the location of an Agricultural College. We, however, merely state these loose thoughts for the consideration of those who may feel an interest in the subject."

Notwithstanding the advantages thus enumerated by the Editor of the Franklin Post, and undoubtedly of much importance, we think that similar advantages, with some other accommodations of a superior nature may be enjoyed by an Agricultural Seminary, with a location in the vicinity of Boston. If the soil in this neighborhood is not naturally so fertile as that of the rich alluvial lands which compose the valley of Connecticut river, there will be the more room and occasion for the display of agricultural skill in its improvement. One of the principal branches of the science of Agriculture is that which teaches to ameliorate soils by a judicious mixture of other soils, as well as by a proper application of substances which we style manures. If the soil "is situated in one of the richest agricultural regions of the world, where a good system of agriculture has been for many years pursued," there will be little to be expected from any exhibition of the effects of agricultural science in the *improvement of soils*.—What nature has made perfect art cannot ameliorate. Any ignorant cultivator may make a paradise productive, but it requires superior skill to cause "the wilderness to blossom."

The value of the fruits of the earth in the neighbourhood of Boston will be greater than they would be at a considerable distance from market. A larger proportion of the expenses of the proposed Seminary might be paid by the products of the labour of the pupils, if those products could be sent fresh to Boston market, than could be obtained from similar articles raised at a distance from it. The advantages of obtaining Scientific information as well in Agriculture, as in other useful arts, are much greater in Boston, and its neighbourhood than in any country town. The Library of the Massachusetts Agricultural Society—that of Havard University, the books of the Athenæum, and many valuable private libraries might and undoubtedly would be "accessible on reasonable conditions, to all persons," concerned in the proposed institution. New and improved implements in Agriculture and the Arts might be inspected gratis, in larger and more complete repositories than can be found or obtained in any part of the country. Likewise a greater number of our most distinguished and most scientific agriculturists, as well as our best artists, of every description, reside in Boston and its neighbourhood, than can be found in any part of the country of the same extent. In short the advantages for obtaining every kind of information which it is the object of the proposed institution to acquire and disseminate are much greater in Boston and its neighbourhood than in any other part of New England, unless mineralogical and geological science may form an exception. Still it is a matter of doubt whether the country in the neighbourhood of Boston may not present as fine a field for researches tending to improvements in mineralogy and gealogy as any interior part of the Union.

It may be urged that the allurements to dissipation are greater in Boston than in the country. But any evil from that source may easily be obviated by the discipline of the Seminary. The pupils may be prohibited from visiting this city except under the superintendence of one of the instructors of the institution, or some other means may be adopted to preserve them from being tempted, or led astray by the fascinations of this Metropolis.

We have been politely favoured by the Author, with a manuscript copy of a learned and interesting Address, delivered before the Plymouth Agricultural Society, at Bridgewater, Oct. 5, 1825, by J. E. HOWARD, Esq. It will soon be given to the public through the columns of the New England Farmer.

Mr. BENJ. MUDGE is at present on a tour through part of New Hampshire and Vermont, and is an authorised Agent for this paper.

HORSE HAY RAKE.

The last "Nova Scotian" contains a letter from Mr. John Hicks, dated New York, Oct. 2, 1825, who has been recently taking a short tour in this country, noticing the different modes of farming, &c. He thinks the Horse Hay Rake would be of incalculable benefit on the beautiful level meads and marshes, with which Nova Scotia abounds. The Editor of the Nova Scotian says he lately undertook to notice the proportion of time consumed in making hay, by using the common hand-rake, and found that in a field of 5 acres, *one-third* of the labor of the hay makers, from the time the grass was cut till the hay was carted into the barn, was spent with the hand-rake. The labour with the horse rake is comparatively nothing. It is now extensively used in England, Scotland, the Netherlands, and in some parts of the United States.—A particular account of the construction of the Horse Rake (with an engraving) will be found in the New England Farmer, vol. iii. page 361, and vol. ii. page 394.

Miscellaneous Items.

The Michigan Herald of the 8th inst, states that the first boat that arrived at Buffalo by way of the canal, was freighted with *oysters*, a few of which were senton to that city by the Steam Brig. in confirmation of the great event which has united that distant region with the Atlantic. Detroit is now removed but six days' journey from New York!

Mobile.—55,800 bales of Cotton, 1,275,503 feet of Lumber, and 357,884 Staves, were exported from Mobile during the year ending the 30th Sept. 1825.—Cotton is very backward this year, at Mobile, in coming to market, only 34 bales had been received up to the 8th ultimo. An increase of crops this year is calculated upon, and it is supposed that 70 or 80,000 bales will be exported from that city.

The N. Y. Canal is now shut up by the ice, says the Troy Sentinel, so as to prevent all passing except by the few adventurous navigators who push their way through all obstacles.

Commerce of Lake Erie.—Sixteen sail of vessels, with full cargoes, left Buffalo on the 21st inst. for the different ports of Pennsylvania, Ohio and Michigan.

Coal.—The transportation of Coal from Mount Carbon to Philadelphia continues to be prosecuted with much spirit. 500 tons were transported between the 11th and 24th of November.

Mr. Livingston of New-Orleans, has been solicited by the Trustees of the Transylvania University of Lexington, (Ken.) to deliver Lectures on Law in that Institution for *three months* in the year with an annual salary of $4000.

Effects of Intemperance.—A few days since, in Bellefonte, Penn. an Irishman was roasted alive in a log-cabin which was set on fire in a drunken frolic. Several others were dreadfully burnt. O, most powerful whiskey! what havoc you make among your votaries.

Among the applications to the N. York Legislature, at their approaching session, there will be one to incorporate the N. York South American steam-boat association, with a capital of one hundred thousand dollars.

Tunnelling.—A tunnel (says the Western Herald,) has been constructed, for the conveyance of water from the river to the Clinton paper mill in that town.—The tunnel is one hundred seventy-five feet in length, and is 45 feet beneath the surface of the earth.

By a law passed at the last session of the Legislature of New-York, the question in what manner the Electors of President shall hereafter be chosen, whether by general ticket or by Districts, was submitted to the decision of the people of that State, at their recent election. By the returns, it appears that the District system has a large majority.

From the papers printed in Edinburgh, we learn that the growth of that city, is even more rapid than that of London. New squares and streets are building in the capital of Scotland more extensive than those building in the capital of England and which are so much noised abroad.

Mr Monroe, late President of the United States, is spoken of, in the Virginia papers, as a candidate for the office of Governor of that State; and the Petersburg Intelligencer adds—"Should it be ascertained that he will accept the chair, there can be no doubt as to the vote in joint ballot of the two Houses."

In repairing an old building lately in Newton, (Con.) a leather bag containing several hundred dollars in silver, was found secreted in the chimney. It was supposed the money was placed there by the former owner and occupant, an old bachelor, some time since deceased.

A fish, upwards of 5 feet in length, has been caught in the canal at Lockport, it having strayed away from Lake Erie. It was served up for a village Thanksgiving dinner.

A new bridge is contracted for at Northampton, to be built near where the old one stood.

Steam Boat Navigation.—Pursuant to notice, a large number of our citizens assembled on Friday at Merchants' Hall, to hear the report of the committee on the establishment of a line of Steam Boats between this city, Maine, and the British Provinces, to connect with the English Steam Packet Line. The substance of the report was, to declare the expediency of the project, and recommend the appointment of a committee to obtain subscriptions. The general views of the committee in relation to the subject, their conviction of its importance to the city, and its ultimate profit to the stockholders, were stated in an address by George Bond, Esq. A subscription was opened at Merchants' Hall, with flattering auspices.

The excellent sketch of General La Fayette's Life, written at Boston, by Professor Ticknor, and originally published in the North American Review, has been translated at Paris into French, and eagerly bought and read. A few and only slight alterations were made by the Translator, to accommodate it to the *Censure*. The permitted currency of a biographical notice so ecomiastic, may be considered as one of the proofs, that the French Government is no longer disposed to molest the old patriot in any manner.—*Nat. Gaz.*

The Trenton American mentions, that the public Fund in New Jersey, for the instruction of the poor, has grown to the sum of $200,909; and that there is reason to expect an immediate addition to it of 100,000 dollars—balance in the state treasury.

The net profits of the steam-boat line, on this coast from Boston to Eastport, via Bath, the present year, up to 22d Sept. last, have been $3,118; capital stock $43,000. This shows how profitable a line of large and commodious boats would be.

Buchan's Domestic Medicine, in one volume octavo, "revised and amended by Dr John G. Coffin," has lately been published in Boston. This work, in its original form, has been found by the experience of numerous families, to be most highly valuable. Adapted to the habits and climate of our country, by a physician of skill and experience, it must become one of the most interesting books which a family can own.

ADMINISTRATOR'S Sale of Real Estate.—By license of Court, will be sold by public auction, on Thursday the 29th of December inst. on the premises, at 10 o'clock A. M. so much of the real estate of Abel Phelps late of Leominster, dec'sd, in the county of Worcester, as will raise the sum of 1500 dollars, for the payment of debts and charges.—Said estate is pleasantly situated in the north part of said Leominster, on the road to Lunenburg, and would accommodate both the farmer and the mechanic. For particulars, inquire of Withington & Phelps, Congress street, Boston, of Sumner Phelps living on the premises, or of the subscriber.

DAVID WILDER, *Adm'r.*

Leominster, Dec. 6, 1825.

FRUIT TREES, &c.

JAMES BLOODGOOD & CO. have for sale at their nursery, at Flushing, on Long Island, near New York,

Fruit and Forest Trees, Flowering Shrubs & Plantts of the most approved sorts.

The proprietors of this Nursery attend personally to the inoculation and engrafting of *all their Fruit Trees*, and purchasers may rely with confidence, that the Trees they order will prove genuine.

Orders left with Mr ZEBEDEE COOK, jr. No. 44 State Street, Boston, will be transmitted to us, and receive our prompt and particular attention. Catalogues will be delivered, and any information imparted respecting the condition, &c. &c. that may be required, on application to him. Sept. 30.

ON Wednesday the 14th day of December, at 11 o'clock A. M. will be sold at Col. JAQUES, in Charlestown,

4 very fine Lincolnshire Ewes, one year old

1 Lincolnshire Ram, 2 years old, of an extraordinary quality.

2 yearling Lincolnshire Rams.

All the above are Sheep of fine form & size.

5 South Down Rams } of the pure breed

1 South Down Ewe }

The above are the sheep recently imported by Mess. A. & A. Lawrence & Co.—And will be sold without reserve by COOLIDGE, POOR & HEAD,

Auctioneers.

PRICES OF COUNTRY PRODUCE, &c.

		FROM D. C.	TO D.C.
APPLES, best,	bbl		1 75
ASHES, pot, 1st sort,	ton.	105 00	
pearl do.		110 00	114 00
BEANS, white,	bush	1 60	1 70
BEEF, mess, 200 lbs. new,	bbl.	9 25	
cargo, No 1, new,		7 00	
" No 2, new,		5 75	
BUTTER, inspect. No. 1. new,	lb.		16
CHEESE, new milk,		7	9
skimed milk,		3	4
FLAX		9	10
FLAX SEED	bush	95	1 00
FLOUR, Baltimore, Howard St	bbl.	6 25	
Genesee,		6 00	
Rye, best,		2 50	3 00
GRAIN, Rye	bush		64
Corn			76
Barley		50	
Oats			46
HOGS' LARD, 1st sort, new,	lb.	11	12
HOPS, No 1, Inspection		8	11
LIME,	cask		1 12
OIL, Linseed, Phil. and Northern	gal.		90
PLAISTER PARIS retails at	ton.	4 50	4 75
PORK, Bone Middlings, new,	bbl.	16 00	
navy, mess, do.		13 00	
Cargo, No 1, do.		12 50	
SEEDS, Herd's Grass,	bush	1 75	2 00
Clover	lb.	7	8
WOOL, Merino, full blood, wash		75	1 20
do do unwashed		40	45
do 3-4 washed		45	50
do 1-2 do		37	42
Native do		60	75
Pulled, Lamb's, 1st sort		52	55
do Spinning, 1st sort		40	45

PROVISION MARKET.

BEEF, best pieces	lb.	9	12
PORK, fresh, best pieces,		6	8
" whole hogs,		5	6
VEAL,		4	6
MUTTON,		5	8
POULTRY,		8	10
BUTTER, keg & tub,		16	18
lump, best,		16	20
EGGS,		25	
MEAL, Rye, retail,	bush	70	80
Indian, do.		70	80
POTATOES,		40	50
CIDER, liquor,	bbl.	2 00	2 50

MISCELLANIES.

THE BRIDE'S FAREWELL.

BY MRS HEMANS.

Why do I weep?—to leave the vine,
Whose clusters o'er me bend?
The myrtle—yet, O call it mine!
The flowers I loved to tend!
—A thousand thoughts of all things dear,
Like shadows o'er me sweep,
I leave my sunny childhood here,
—O! therefore let me weep!

I leave thee, sister!—we have play'd
Through many a joyous hour,
Where the silvery green of the olive shade
Hung dim o'er the fount and the bower!
Yes! thou and I, by stream, by shore,
In song, in prayer, in sleep,
Have been as we may be no more—
—Kind sister! let me weep!

I leave thee, father!—Eve's bright moon
Must now light other feet,
With the gather'd grapes and the lyre in tune,
Thy homeward steps to greet;
Thou in whose voice, to bless thy child,
Lay tones of love so deep,
Whose eye o'er all my youth hath smiled,—
I leave thee! let me weep!

Mother! I leave thee!—on thy breast
Pouring out joy and woe,
I have found that holy place of rest
Still changeless—yet I go!
Lips that have lull'd me with your strain,
Eyes that have watch'd my sleep!
Will earth give love like *yours* again;
—Sweet mother! let me weep!

Thoughts on Sleep.—"Blessings," exclaimed Sancho, "on him that first invented sleep! It wraps a man all round like a cloak." It is a delicious moment certainly, that of being well nestled in bed, and feeling that you shall drop gently to sleep.—The good is to come, not past; the limbs have been just tired enough to render the remaining in one posture delightful; the labour of the day is done. A gentle failure of the perceptions comes creeping over one; the spirit of consciousness disengages itself more and more with slow and hushing degrees, like a mother detaching her hand from that of her sleeping child; the mind seems to have a balmy lid-closing over it like the eye; 'tis closing—'tis more closing—'tis closed. The mysterious spirit has gone to take its airy rounds.

One of the most favorite passages on sleep is the following address from Beaumont and Fletcher's tragedy of *Valentinian*, the hero of which is a sufferer under bodily torment. He is in a chair, slumbering, and these most exquisite lines are gently sung with music:

Care-charming Sleep, thou easer of all woes,
Brother to Death, sweetly thyself dispose
On this afflicted prince. Fall like a cloud
In gentle showers: give nothing that is loud
Or painful to his slumbers: easy, light,
And as a purling stream, thou son of Night,
Pass by his troubled senses: sing his pain
Like hollow murmuring wind or silver rain:
Into this prince gently, oh! gently slide,
And kiss him into slumbers like a bride!

How earnest and prayer-like are these pauses! How lightly sprinkled, and yet how deeply settling, like rain, the fancy! How quiet, affectionate, and perfect the conclusions!

Sleep is most graceful in an infant; soundest in one who has been tired in the open air; completest to a seaman after a hard voyage; most welcome to the mind haunted with one idea; most interesting to behold in the parent that has wept; lightest in the playful child; proudest in the bride adored.

Coal.—We understand that the Rhode-Island Coal Company has commenced raising coal from the mines on that fertile and delightful island.—The coal is said to be abundant and of an excellent quality, and promises fully to remunerate the enterprize of procuring and sending it to market. We learn from the Newport Mercury, that the first cargo raised since the renovation of the company, sailed for New-York on Thursday last. Those who succeeded in burning the R. I. coal (and there were many,) when the mines were formerly in operation, were not only satisfied of its utility and economy, but preferred it, for its cheerfulness and comfort, to any other fuel. Modern improvements in the arts of constructing stoves and grates, have removed the principal objection to its use, the difficulty of kindling it. It will be found in this respect to be no more objectionable than the Lehigh coal, and probably not so much so. We know of no advantage which the Lehigh possesses over it; and should the markets be sufficiently well furnished, the Rhode-Island coal will probably hold a successful competition not only with the Lehigh, but with other kinds which cannot be afforded at so little expence.

[*Providence American.*

ANIMAL STRENGTH.—*Some curious remarks on its varieties, from mathematical works.*—There are, in common parlance, various ways in comparing animal force.

"Men may apply their strength in different ways in a working machine."

A man of ordinary strength, turning a roller by the handle, can work all day against a resistance equal to 30lbs.

Working 10 hours a day, he can raise a weight of 30lbs. through 3 feet 6 inches, in a second of time, and in that proportion.

He can only work constantly for a small time against a resistance of 50lbs. more.

Two men working at a windlass, can more easily draw up 70lbs. than one man 30, provided the elbow of one of the handles be at right angles to that of the other. This is always regarded by good machine-makers.

Attach a fly wheel to it, and a man can do a third more work; or raise 40lbs. working a whole day as above mentioned. For a little while he can overcome a resistance of 80lbs.

Porters, and men accustomed to bear loads, will carry from 150 to 250lbs.

A man can draw but 70 or 80lbs. horizontally, for he cannot apply but his own weight to the pull.

Suppose a man weighs 140lbs. his force exerted horizontally at the height of his shoulders, is only enough to overcome a resistance of 27lbs.

HORSES.—A horse's strength is generally equal to that of 5 men. He can carry 240 to 270lbs. He draws to greatest advantage, when the line of direction is a little elevated above the horizon, and the power acts against his breast.

He can draw 200lbs. on the ground, for 8 hours a day, at 2½ miles an hour; and 240lbs.; he can work but 6 hours at that rate.

In both cases, if he also carries some weight, he draws better for it.

In a cart he may draw from 1000lbs. to a ton weight.

Newly discovered Nation.—We have received accounts of a recent discovery in Central Africa, which will soon be laid before the public in greater detail; but of which the following outline is sufficiently curious.—Major Clapperton and Captain Denham, in the course of their late expedition in that quarter of the world, arrived in the capital of a nation whose manners and history seem like to occupy, to no trivial extent, the attention of the public of this country, we might safely say of the whole civilized world. They found a nation jet black in colour, but not in our sense of the term *negroes*, having long hair and fine high features. This people was found to be in a state of very high civilization; and above all, the British travellers witnessed a review of *seven thousand* cavalry, divided into regular regiments, and all clothed in complete armour. Six thousand wore the perfect hauberk mail of the early Norman knights; most strange by far of all, one thousand appeared in perfect *Roman* armour. The conjectures to which this has given rise are various. We confess for ourselves, that, looking to the polished and voluptuous manners ascribed to these people, the elegance of their houses, &c. &c.; in a word, the total difference between them and any other race as yet discovered in the interior of 'Africa, mother of monsters,' our own opinion is strongly that here we have a fragment of the old Numidian population; a specimen of the tribes who, after long contending, and long co-operating with imperial Rome, were at last fain to seek safety in the central desert, upon the dissolution of the empire. In these squadrons Messrs. Clapperton and Denham probably beheld the liveliest image that ever has been witnessed by modern eyes, of the legions of Jugurtha—may we not say of Hannibal. The armour, we understand, is fabricated in the most perfect style of the art; and the *Roman* suits might be mistaken for so many Herculanean and Pompeian discoveries, if it were possible for us to imagine the existence of genuine antiquities possessing all the glossy finish of yesterday's workmanship. One of these travellers has already set off on his return to this sable court.—*London paper.*

It is now 51 years—says the Boston Palladium,—since the first American General Congress was held, "to consult measures for the preservation of our liberties." Of this illustrious band of Patriots, only one survives; and that is the venerable JOHN ADAMS, of Massachusetts. What a glorious change has taken place in our happy country since that of anxiety and danger! Of *three* millions, we have become nearly *twelve*. Our Republican Government is in the full tide of successful experiment. We are as powerful as we are free; and as prosperous as powerful.—The federal union has been *all*, and more than was expected. It is commensurate to our high destiny, if the officers of the General Government will be content with the exercises of their legitimate powers, and the States severally yield to a harmonious, prosperous national administration.

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VOL. IV

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T. G. FESSENDEN,
Editor

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